LIQUID EFFLUENT

Idaho Nuclear Technology and Engineering Center (INTEC) Sewage Treatment Plant (STP) Results for 2004

The WLAP for INTEC STP (LA-000115-02) requires that the influent (CPP-769) and the effluent (CPP-773) be sampled monthly for the following parameters:

INTEC STP	
Influent (CPP-769)	**Effluent (CPP-773)**
Daily flow	Daily flow
Total Kjeldahl nitrogen	Total Kjeldahl nitrogen
Nitrate + nitrite as nitrogen	Nitrate + nitrite as nitrogen
Biochemical oxygen demand	Biochemical oxygen demand
Total phosphorus	Total phosphorus
Total suspended solids	Total suspended solids
	Electrical conductivity
	Total dissolved solids
	Chloride
	Total coliform

The permit sets concentration limits for the effluent for total nitrogen at 20 mg/L and total suspended solids (TSS) at 100 mg/L. Total nitrogen is calculated from the reported total Kjeldahl nitrogen and nitrate + nitrate as nitrogen results.

The permit specifies a flow limit of 30 million gallons/permit year. For the INTEC STP, the permit year runs from November 1 through October 31. At the end of the June 2004, the total permit year flow measured by the flow meter was approximately 9.1 million gallons.

During the first quarter of 2004:

- All influent and effluent permit-required parameters were within historical ranges.
- There were no permit noncompliances associated with the influent.
- For the effluent, the calculated total nitrogen concentration for February 2004 exceeded the 20-mg/L permit limit, which is not uncommon during winter months at this location.

Numerous maintenance and operation corrective actions have been implemented to manage the total nitrogen concentrations in the effluent. Currently, major modifications are underway to reroute the treated sanitary wastewater from the Sewage Treatment Plant to the INTEC New Percolation Ponds and to close the infiltration trenches associated with the Sewage Treatment Plant.

The following graphs present results of sampling performed since 2003 for those parameters with set concentration limits.

FOR MORE INFORMATION

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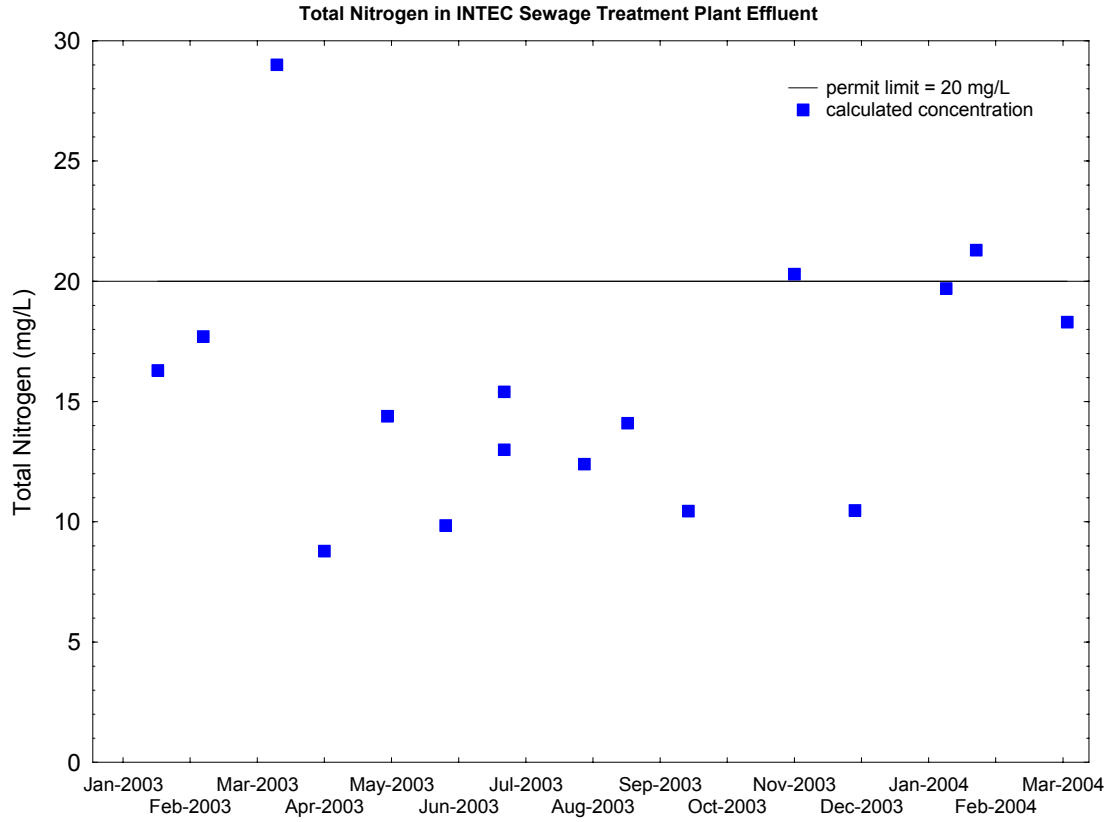
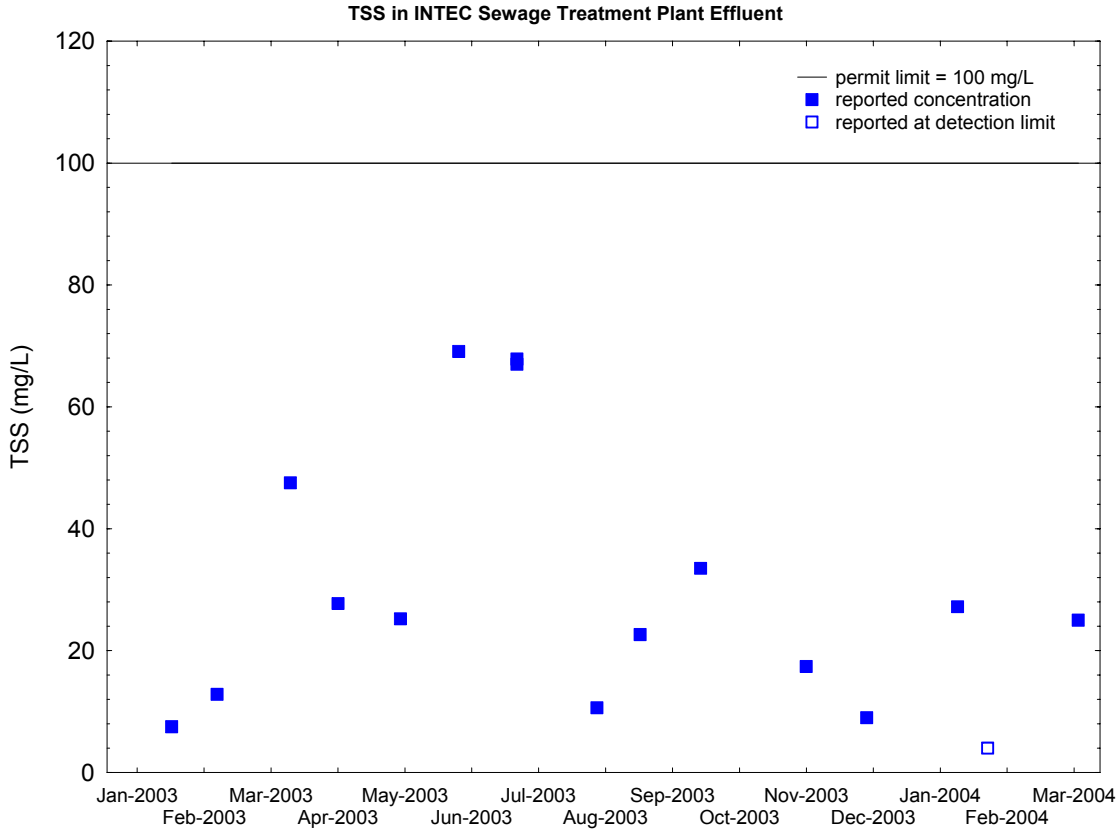

Total Nitrogen in INTEC Sewage Treatment Plant Effluent
Total Nitrogen (mg/L)
30
25
20
15
10
5
0
permit limit = 20 mg/L
calculated concentration
Jan-2003
Feb-2003
Mar-2003
Apr-2003
May-2003
Jun-2003
Jul-2003
Aug-2003
Sep-2003
Oct-2003
Nov-2003
Dec-2003
Jan-2004
Feb-2004
Mar-2004


TSS in INTEC Sewage Treatment Plant Effluent
TSS (mg/L)
120
100
80
60
40
20
0
permit limit = 100 mg/L
reported concentration
reported at detection limit
Jan-2003
Feb-2003
Mar-2003
Apr-2003
May-2003
Jun-2003
Jul-2003
Aug-2003
Sep-2003
Oct-2003
Nov-2003
Dec-2003
Jan-2004
Feb-2004
Mar-2004